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Johns-Manville
Feasibility Study Report
Public Meeting

February 9, 1987

7:00 p.m.

SUPERFUND FACT SHEET

U.S. EPA
REGION V

Johns-Manville Site
Waukegan, Illinois

February
1987

U.S. EPA RECOMMENDS A REMEDY FOR JOHNS-MANVILLE IN WAUKEGAN

INTRODUCTION

Under a legal agreement with the United States Environmental Protection Agency (U.S. EPA) and the Illinois Environmental Protection Agency (IEPA), the Johns-Manville Corporation, now the Manville Sales Corporation, recently evaluated alternative methods (known as "remedial alternatives") to resolve contamination problems at the Johns-Manville Corporation Superfund site in Waukegan, Illinois. These evaluations were recently compiled in the form of a report called a Feasibility Study (FS). The study examines the various ways of dealing with the contamination present at the Johns-Manville site.

Contaminants were first discovered at the Johns-Manville Disposal site in April 1982 when air sampling conducted by the U.S.

A suggested there was airborne asbestos above background levels downwind of the site. The site was added to the National Priorities List (NPL) on December 30, 1982. The Johns-Manville Corporation contested the basis for this listing. However, the company did agree to conduct a Remedial Investigation and Feasibility Study for the site. The Remedial Investigation, which was completed in 1985, showed elevated concentrations of asbestos in the air and groundwater, and relatively high levels of lead in the soil. Traces of other contaminants including chromium, copper and arsenic also were found at the site.

This fact sheet describes the recommended alternative and presents other alternative measures considered by the U.S. EPA and IEPA in the Feasibility Study Report for cleanup of the Johns-Manville site.

U.S. EPA will hold a public comment period and public meeting to receive input on U.S. EPA's recommendations. Further details on the public meeting and comment period are provided at the end of this fact sheet under "Opportunities for Public Involvement."

Once the public comment period is completed, U.S. EPA will review comments received and choose the remedial alternative to be carried out at the Johns-Manville site.

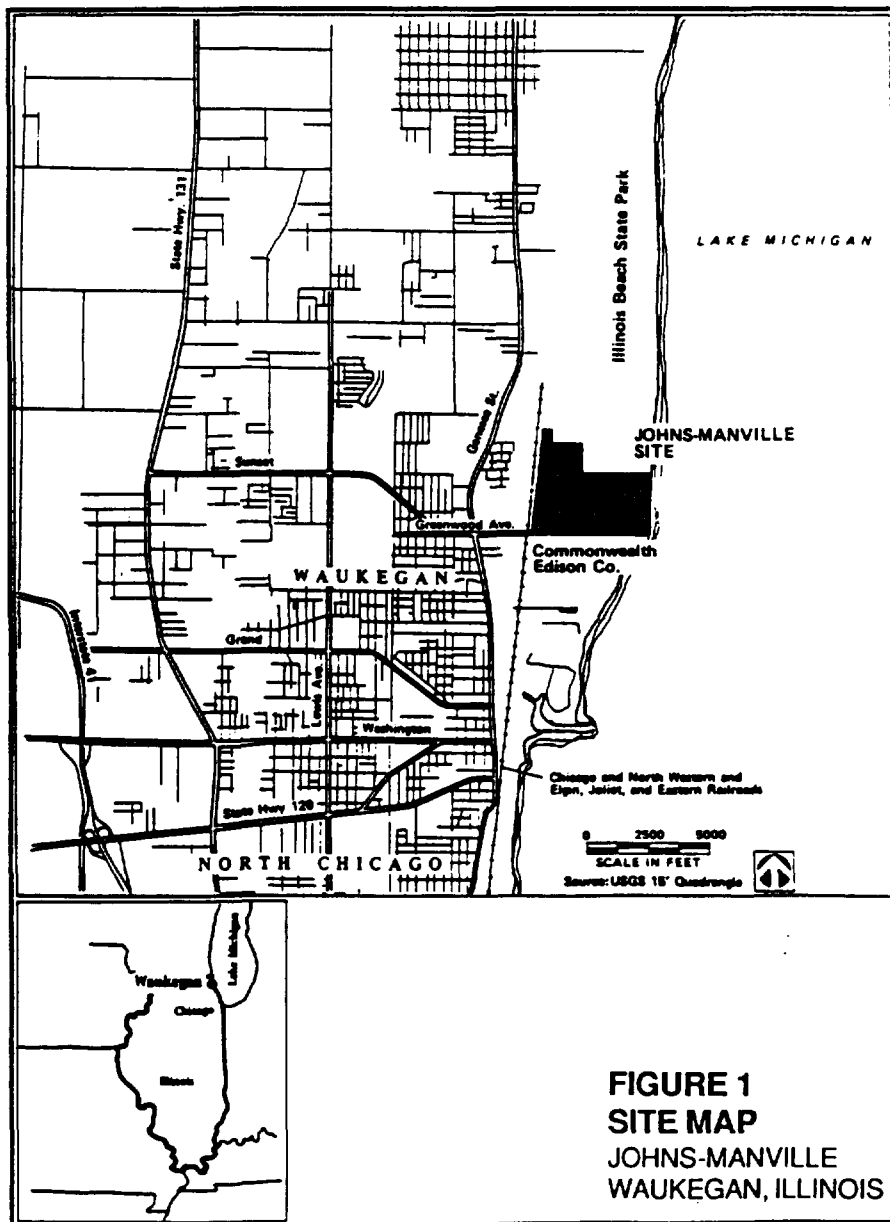


FIGURE 1
SITE MAP
JOHNS-MANVILLE
WAUKEGAN, ILLINOIS

THE SITE

The Johns-Manville property is located on the west shore of Lake Michigan in Waukegan, Lake County, Illinois about 37 miles north of Chicago and 10 miles south of the Wisconsin border (Figure 1). Lake Michigan borders the east side of the 300-acre site, 120 acres of which are used for waste disposal. The south side is bordered by the Commonwealth Edison Company. A residential area is located to the west, in addition to railroad tracks operated by Chicago & North Western Transportation Company (C&NW) and the Elgin, Joliet, & Eastern Company. The Illinois Beach State Park lies to the north of the site.

This site has received wastes from products manufactured by the company since 1922 in the form of cuttings, residues and process waste water. These waste products have been disposed of in four general waste disposal areas. These include the friable asbestos (see

Glossary) disposal pit, the miscellaneous disposal pit, the wet waste basin system, and the sludge disposal pit (Figure 2). The friable asbestos disposal pit is managed as a landfill under the requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAP). The asbestos disposal pit will be closed as part of the proposed remedial action.

The wet basin system consists of a series of settling basins. They do not discharge to navigable water. Dredge spoils (material that has settled) from the wet waste basins are disposed of in a dry depression, referred to as the sludge disposal pit. Loose and baled scrap and miscellaneous wastes are dumped into the miscellaneous disposal pit. These activities are ongoing at the Johns-Manville site, and will not be affected by the proposed remedial alternatives.

REMEDIAL ALTERNATIVES

The Manville Sales Corporation has devised four alternatives plus a no action alternative in its Feasibility Study Report for reducing the potential threat to human health and the environment by contaminated materials and soil at this site. The estimated cost is listed under each alternative.

The remedial alternatives are summarized as follows:

continued ...

ADDRESSING THE PROBLEMS

The Remedial Investigation at the Johns-Manville site indicated that the groundwater and air within the disposal area contains elevated amounts of asbestos fiber concentrations and the soil contains relatively high levels of lead.

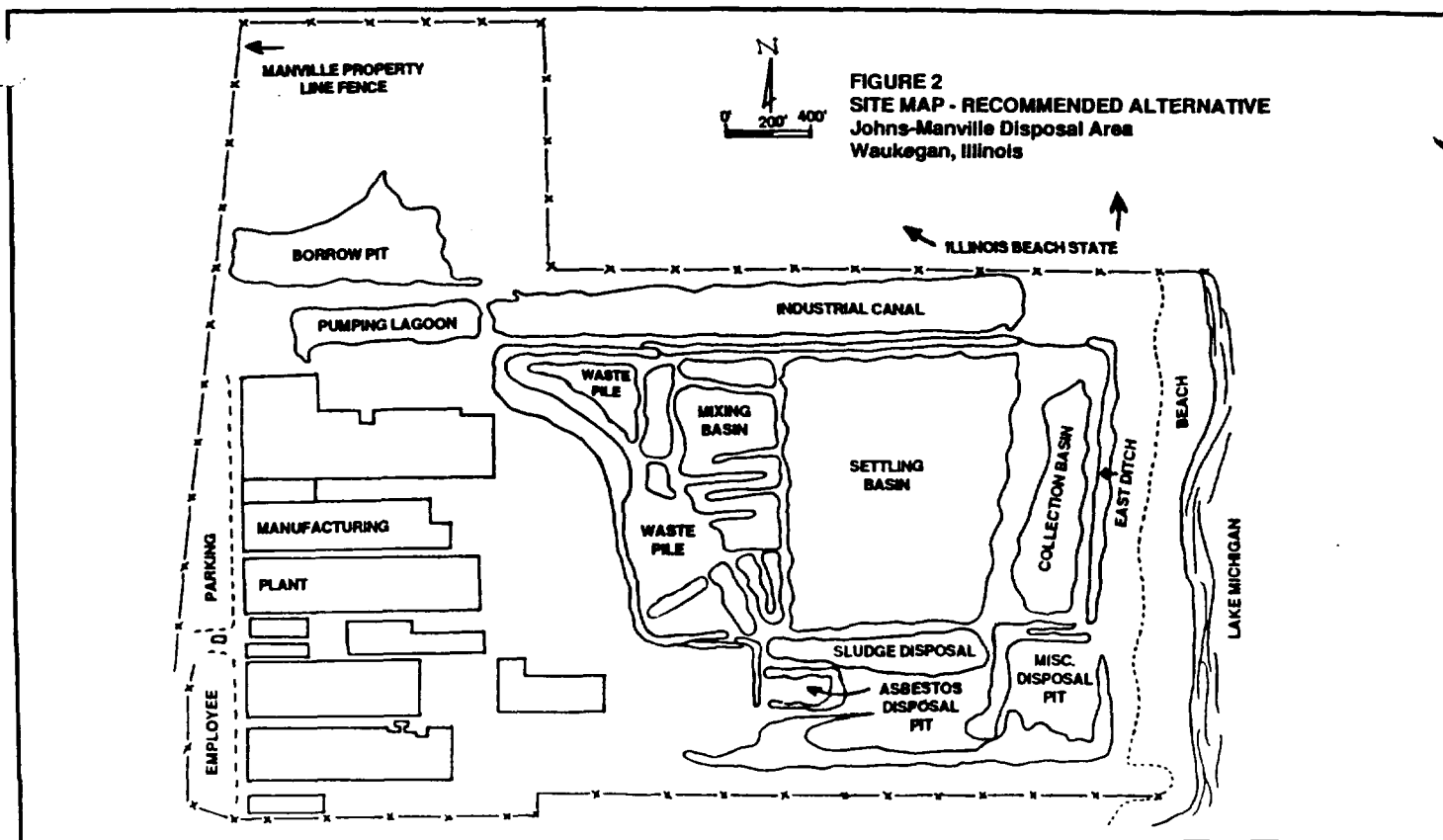
Based on monitoring data collected during and after the Remedial Investigation, there is no evidence of off-site migration of any contaminant from the disposal area. Analysis of groundwater within the site compared to Lake Michigan water samples indicated similar asbestos fiber concentrations. The concentration of asbestos fibers found on-site was 6 to 12 million fibers per liter, while the concentration for the Lake Michigan samples ranged between 5.5 and 19 million fibers per liter. The Federal Government presently has no regulation regarding levels of asbestos in groundwater, but it has established a contamination limit goal of 7.1 million fibers per liter as the ideal maximum amount of asbestos allowed in groundwater.

Some of the on-site air samples contained asbestos fibers at levels somewhat higher than those observed at off-site locations. This may be because on-site disposal activities can cause asbestos and lead particles to become airborne.

Site access is restricted and there are no residential dwellings and drinking ground-water supplies within a one-half mile radius of the site. Some of the waste materials containing asbestos and lead are exposed at the site and are a potential threat to workers or wildlife.

The primary goal of the remedial response is to decrease the potential for direct contact with waste materials and soils containing lead. Another goal is to monitor the groundwater to ensure that levels of lead and other contaminants do not increase.

The next section provides remedial alternatives which the U.S. EPA and IEPA will use to select the most appropriate, cost effective and environmentally safe action to limit contamination at the site.



I. No Action

The No Action alternative involves leaving the waste materials and soils on the disposal area in their current state, but includes monitoring of groundwater and surface water.

Under this alternative a potential threat of human and wildlife exposure will remain and therefore will not be acceptable.

COST: \$326,000

The remaining four alternatives also include groundwater monitoring as in the No Action alternative. In addition, each would limit the potential for airborne contaminants and direct contact threats.

II. Grading and Seeding

This alternative involves grading waste materials and soils, adding top soil, fertilizing and seeding. Grading and seeding is expected to decrease the potential for on-site airborne asbestos and direct contact with waste materials. In the short-term, adverse impacts on public health and environment may occur due to construction generated noise, dust and airborne asbestos fibers.

In the long-term, top soil erosion is likely, increasing the potential for direct contact with the contaminants.

COST: \$3,124,000

III. Soil Covering with Vegetation

This involves grading waste materials and soil, and laying a minimum of 24 inches compacted clean soil and top soil cover, fertilizing and seeding. The Manville Sales Corporation recommended an 18 inch soil cover in its Feasibility Study. However U.S. EPA and IEPA have amended this to 24 inches, making the cover more permanent and providing added protection from freeze-thaw effects and possible soil erosion.

The Soil Covering with Vegetation alternative is expected to eliminate the potential for on-site airborne asbestos and direct contact with the waste materials. It also provides some protection to groundwater from potential contamination by leachable lead.

This alternative requires less energy, money and natural resources than on-site or off-site landfilling alternatives. Short-term adverse impacts on public health and the environment are similar to those for alternative II. COST: \$4,488,000

IV. Off-Site Landfilling

Off-site landfilling involves excavation, removal, and transportation and disposal of waste materials and soils in approved off-site landfills. This alternative requires a relatively longer construction period and uses scarce commercial landfill capacity, and transportation of waste on public roads over long distances. There would be longer exposure of public and wildlife to airborne asbestos, lead, dust and noise with this alternative, as compared to alternatives II and III. This alternative would provide added protection to groundwater. COST: \$73,393,000

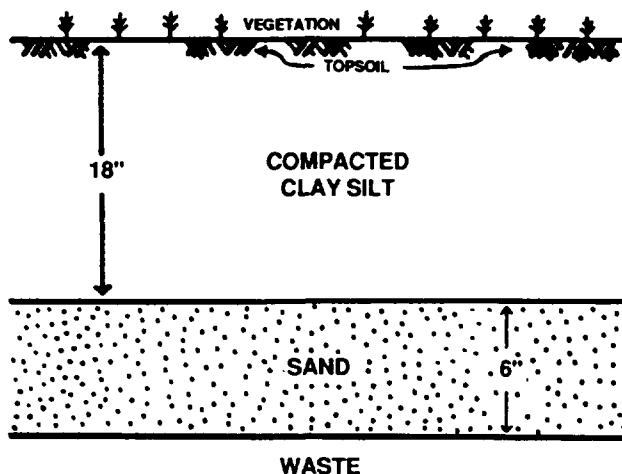
V. On-Site Landfilling

On-site landfilling involves excavation, removal, and transportation and disposal of waste materials and soils in an on-site landfill designed and constructed specifically for the disposal of waste materials and soils.

This alternative involves irreversible use of land currently accessible to wildlife. In addition, on-site and off-site landfilling alternatives involve large amounts of energy, money and other resources and have much higher capital and maintenance costs as compared to the other alternatives.

On-site landfilling involves the longest implementation time of all the alternatives and hence greater construction-generated pollution (e.g., airborne asbestos, noise). This alternative would also provide added groundwater protection. COST: \$39,309,000

FIGURE 3
RECOMMENDED ALTERNATIVE
Cross Section



THE RECOMMENDED ALTERNATIVE

The soil covering with vegetation alternative with a total soil cover thickness of 24 inches (a thickness recommended by the U.S. EPA and IEPA) involves readily available technologies to control the source of contaminants (Figure 3). This alternative can be implemented by the end of 1988 and is estimated to benefit the landscape and wildlife around the disposal area. It prevents asbestos from becoming airborne and complies with NESHAP requirements and the remedial response objectives of CERCLA.

It also provides some protection to groundwater from potential contamination by leachable lead and eliminates direct exposure to contamination in the soil. Monitoring groundwater would ensure that any future contamination is detected.

THE NEXT STEP

The U.S. EPA and IEPA will evaluate any public comments received and choose a final remedy. The final remedy will be identified in a document called a Record of Decision (ROD). After a final remedy is chosen and the ROD signed, the U.S. EPA and IEPA will negotiate with Johns-Manville to do the Remedial Design and Remedial Action for the site. If these negotiations are unsuccessful, the U.S. EPA will correct the problems at the site and attempt to recover the costs from the Manville Sales Corporation. If the negotiations are successful, an agreement in the form of a consent decree (which is required by the new Superfund law) would be filed in court. At that time, the U.S. Department of Justice will hold a public comment period on the decree. Remedial construction at this site is expected to begin in May, 1987 and end in December 1988.

GLOSSARY

Asbestos - Asbestos is a generic term that applies to a number of naturally occurring fibrous silicates. Asbestos was used widely in the construction and manufacturing industries because it has thermal and acoustical insulating properties and is not combustible. Continuous exposure to airborne asbestos has been shown to cause forms of lung cancer. The health implication of asbestos ingestion (e.g., from drinking water) are not fully documented. When asbestos can be crumbled by hand pressure alone, it is called friable.

Background Levels - Concentrations of chemicals that are found in the environment away from man-made pollution sources.

Groundwater Levels - Water beneath the Earth's surface that fills pores between soil, sand, and gravel particles to the point of saturation. Groundwater generally flows through zones of rock or soil (at rates much slower than surface water) and when it occurs in sufficient quantity, it can be used as a water supply.

Landfill - A secure landfill is one that isolates hazardous wastes between an impermeable cap and an impermeable bottom liner. This prevents contact between waste deposits and possible transporting media such as groundwater, surface water, or air. Secure landfilling on-site requires a temporary on-site storage area while a secure facility is being built.

Leachate - Leachate is not a specific chemical itself; it is a liquid, often water, that has seeped through wastes and picked up components of those wastes.

NESHAP - National Emissions Standards for Hazardous Air Pollutants. These standards are required by the Clean Air Act and regulate specific air pollutants such as asbestos, benzene, beryllium, coke oven emissions, and several others.

NPL - National Priorities List. U.S. EPA's list of the top priority hazardous waste sites in the country that are eligible for federal money for cleanup under Superfund.

Record of Decision (ROD) - A public document that explains which cleanup alternative(s) will be used at National Priorities List sites.

Remedial Action (RA) - Response actions that stop or substantially reduce a release or threat of a release of hazardous substances that are serious but not an immediate threat to public health.

Remedial Design (RD) - A phase of remedial action that follows the remedial investigation/feasibility study and includes the development of engineering drawings and specifications for a site cleanup.

Remedial Alternative - A method or combination of methods designed to protect public health and welfare and the environment over the long term, from releases of hazardous substances at a Superfund site. Remedial alternatives are usually projects of a combination of technologies that contain, remove, or destroy most of the contaminants in the air, water, soil and/or groundwater at a Superfund site.

Remedial Investigation/Feasibility Study (RI/FS) -

The long-term cleanup can begin. The first part is the Remedial Investigation (RI) which examines the nature and extent of contamination problems at the site. The second part is the Feasibility Study (FS), which evaluates different remedial alternatives for site cleanup and recommends the most cost-effective alternative.

Sludge - A term that describes a thickened solid/liquid waste byproduct of an industrial, recycling, or treatment process.

Superfund - Also known as CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act). This law authorizes the federal government to respond directly to releases (or threatened releases) of hazardous substances that may endanger public health or welfare, or the environment. The U.S. Environmental Protection Agency is responsible for managing the Superfund program.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

PUBLIC MEETING

U.S. EPA will hold a public meeting to present the findings of the Feasibility Study. U.S. EPA will respond to questions and accept comments from the public about these documents and U.S. EPA's recommended alternative for the site.

Date: Monday, February 9, 1987

Time: 7:00 p.m.

Location: Waukegan City Council
Chambers, 106 N. Utica
Street

PUBLIC COMMENT PERIOD

U.S. EPA encourages the public to review the Feasibility Study and to submit comments. You can find copies of these documents and other site-related information in Waukegan at the Public Library on 128 N. County Street, and at the City Clerk's Office on 106 N. Utica Street. Copies are also available from the U.S. EPA Region V office at the address listed below. Written comments must be postmarked by February 24, 1987.

Send comments to:

Margaret McCue
Community Relations Coordinator
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

MORE INFORMATION

If you have questions about this fact sheet or the Feasibility Study, or would like to request copies of these documents, contact:

Margaret McCue
Community Relations Coordinator
(312) 886-4359

Brad Bradley
Remedial Project Manager
Hazardous Waste Enforcement Branch
(312) 886-4742

U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, IL 60604

TOLL FREE: (800) 572-2515
8:30 a.m. to 4:30 p.m. Central Time

MAILING LIST

If you wish to be placed on the Johns-Manville site mailing list, please fill out this form, detach and mail to:

Margaret McCue, Office of Public Affairs
U.S. EPA Region V, 230 South Dearborn, Chicago, IL 60604

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

PHONE () _____

I. RI results
 A. Before I present RI results, would like
 to describe disposal area + terminology

First Overhead

- RI - 1 -

- Waste disposal area, or site - 120 acre - located east of Manville manufacturing buildings - next to Lake
- Disposed of AB - wastes + materials containing other contaminants, most notably Pb + Cr oxid
- AB no longer used in manufacturing. Only AB disposed of is friable (detr) generated from ~~construction~~ ^{renovation} manufacturing area building

- RI - 2 -

- Site can be divided into 3 main areas:
- 1. Wastewater treatment system
- solid materials settled
- flow
- dredged + deposited on sludge disposal

2. dry disposal areas

- inactive waste piles + 3 active waste disposal areas
- AB pit - friable from ~~construction~~ ^{renovation} materials
- Sludge - dredged materials
- miscellaneous - miscellaneous non - AB wastes from manufacturing

- RI-3 -

- side slopes
- N, S, W boundaries
- constructed of roofing + pipes - waste

Second Overhead

B. RI conducted - nature + extent - potential for migration to receptors

- J-M RI - air, GW, soil, surface water

1. air - 5 on, 3 off-site

- 5 rounds

- indicated elevated levels of AB on-site

- RI-4 -

2. 5 GW monitoring wells installed

- one round

- indicated GW flows to N+E

- traces of some heavy metals - none greater than applicable drinking water standards

- AB fibers detected in GW and Lake Michigan samples (indicate) - concentrate within applicable standards

3. 14 soil borings - 10 on, 4 off-site

- determine physical nature of waste pile and northern site area

- 31 samples collected from 10 on-site

- RI-5 -

- elevated Pb levels, detectable amounts of Cr

C. In summary, results RI indicate

- need to abate AB air emissions and
- ensure that contaminants in soil, most notably Pb, will be properly remediated if they become mobile in the Gw

- Alt-1 -

II Recommended Alternative

3rd Overhead

- Broken into 3 sections

- 1) work to be done
- 2) active areas
- 3) next step in process after meeting

A. Work to be done

- both immediate + long-term

- Alt-2 -

1. Immediate call to be completed by 12/18
 - a. cover for dry disposal areas
 - 24" compacted, AB-free soil, w/ vegetat.
 - 4th O'head - profile - AB levelled
 - 3rd O'head b. wastewater treatment system
 - berms + levees - 12" riprap where feasible
 - otherwise, same cover as dry disposal area
 - with exception of settling basin, all ponds + canals will have AB sludge removed - only non-AB deposited in future

- Alt-3 -

- c. side slopes ratio
 - sloped to ~~2:1~~ 2 horizontal, 1 vertical ~~ratio~~
 - provided with cover as dry disposal area
- d. roadways
 - 24" clean compacted soil and:
 - 8" gravel heavily used
 - 4" gravel lightly travelled
- e. miscellaneous
 - beach clean up
 - fencing E boundary
 - additional warning signs
 - closure NE corner miscellaneous pit - runoff
 - peripheral ditches for runoff collection

- AH-4 -

2. Long-term

- a. Closure of AB pit + cover - renovation
asbestos
- b. contingency plan for future sludge disposal
 - discontinuance of dredging - settling bas.
 - ensure no AB sludge dredged + disposed of on-site
- c. Friable asbestos disposed off-site
- d. GVI detection monitoring system
 - at least 8 additional wells installed on-site
 - tested to determine if contaminants are migrating

- AH-5 -

- minimum 30 yr. duration
- contingency plan to ensure, if levels of contamination that pose a threat to human health tenor. are detected, proper remedial action will be taken

- e. Soil cover mon. program - to be developed to ensure that no AB reaches surface + is released to air - freeze-thaw effects

B. Continued Operations

- 1. wastewater treatment system
 - no AB sludge deposited
 - contingency plan

- AIT-6 -

2. misc. disposal pit - non-AB wastes
3. Sludge disposal pit - non-AB sludge

C. Upcoming Actions

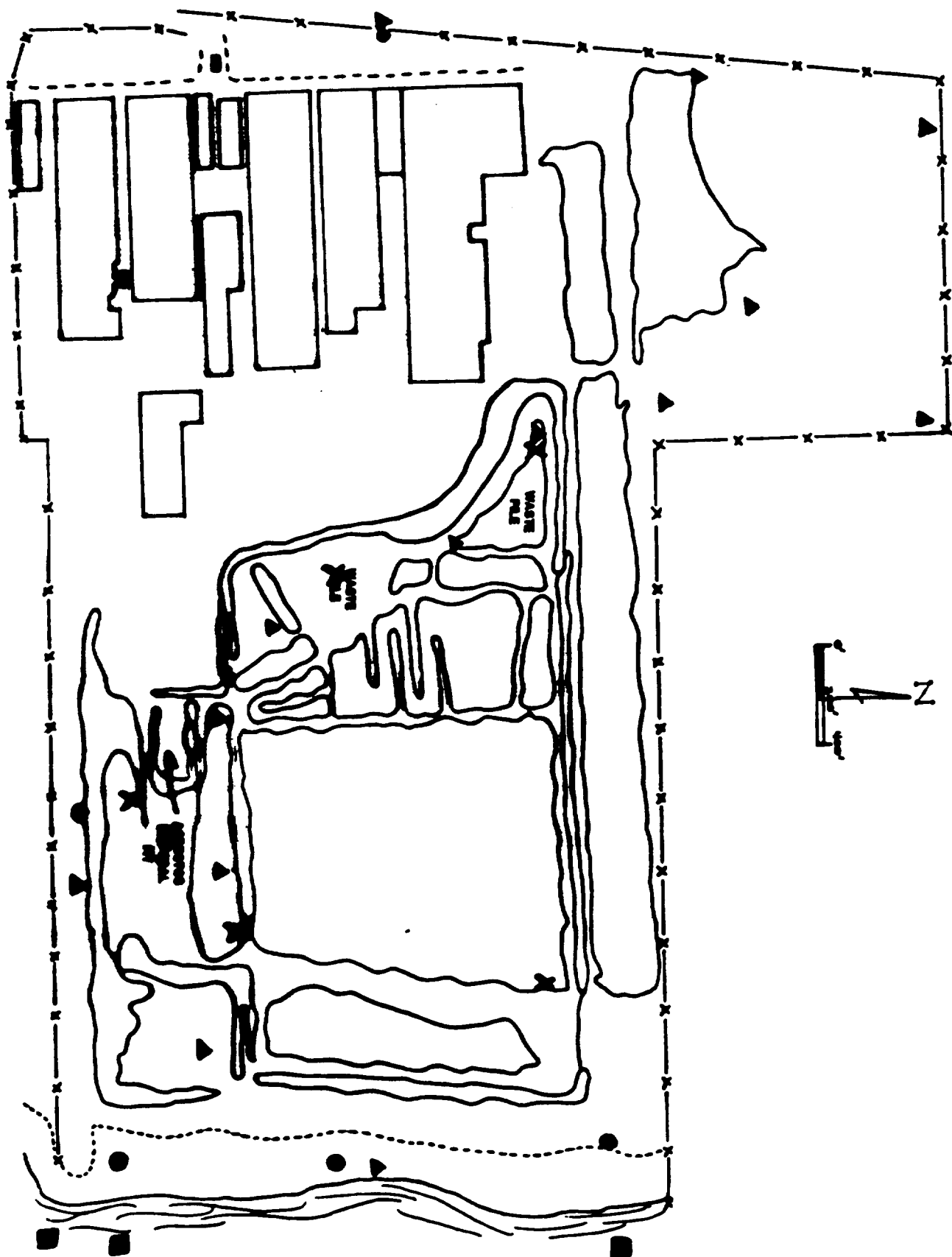
1. E.U.S. EPA to write ROD, considering FS and public comments received
2. U.S. EPA + Manville to continue negotiations for RD/RA
 - Both agree on recommended alternative; however, Manville 18" w/veg, U.S. EPA - 24" w/veg
 - but

- AIT-7 -

- disagreement centers on cost-benefit - adequacy of protection to public health + cost of this protection
- U.S. EPA ~~believes~~ ^{thinks} that 24" cover provides appropriate level of protection of public health + meets all applicable stds, including remedial response objectives of the Superfund legislation and the relevant requirements of SARA

- however, U.S. EPA is presently reviewing different cover thickness and soil composition combinations

3. Depending on results negotiations, decree entered by Manville to perform RD/RA as outlined in ROD or EPA to do work



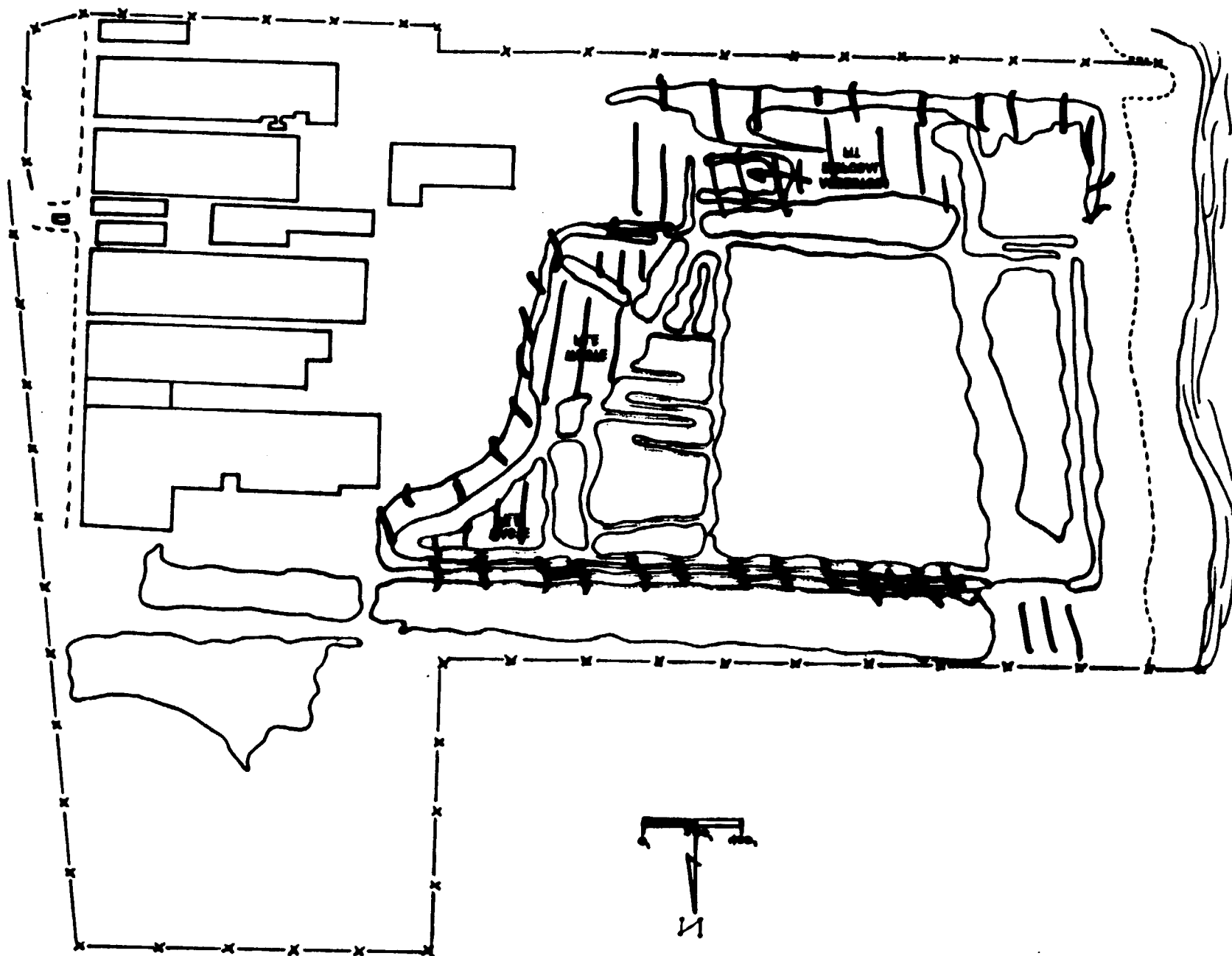
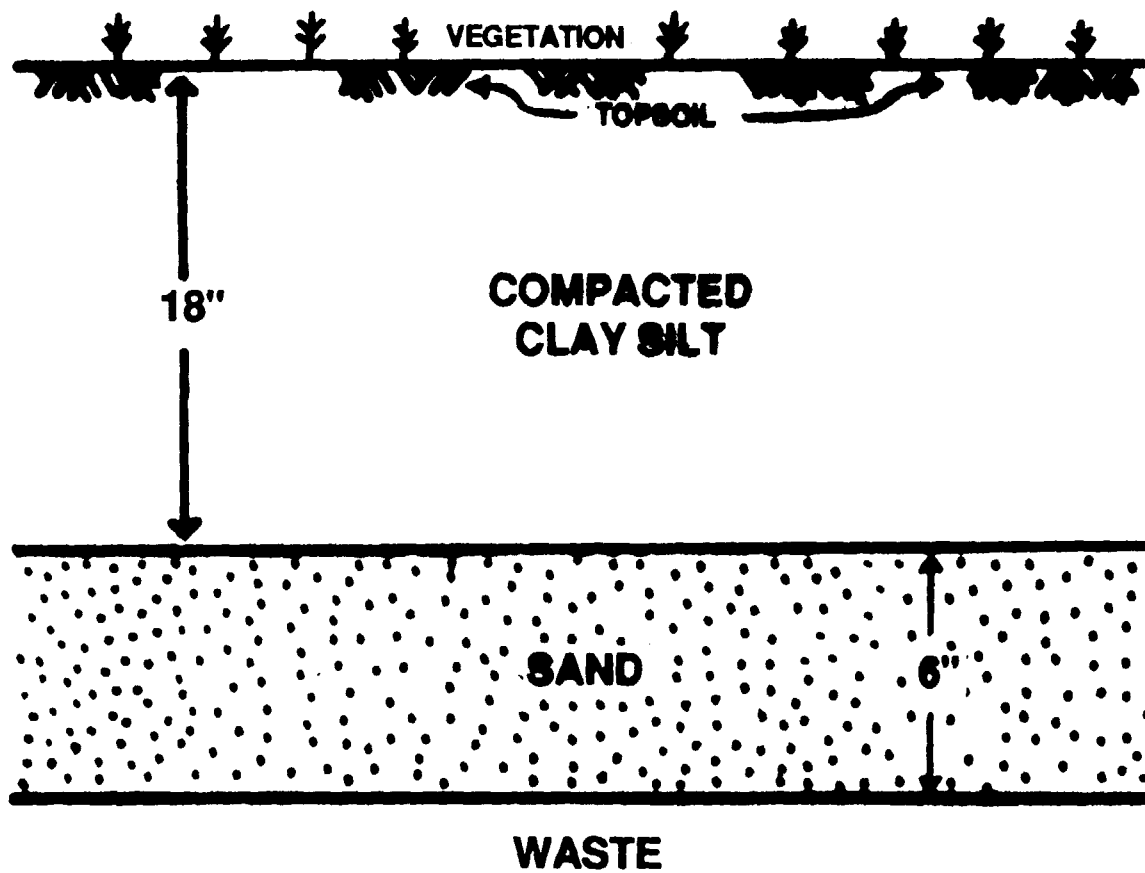
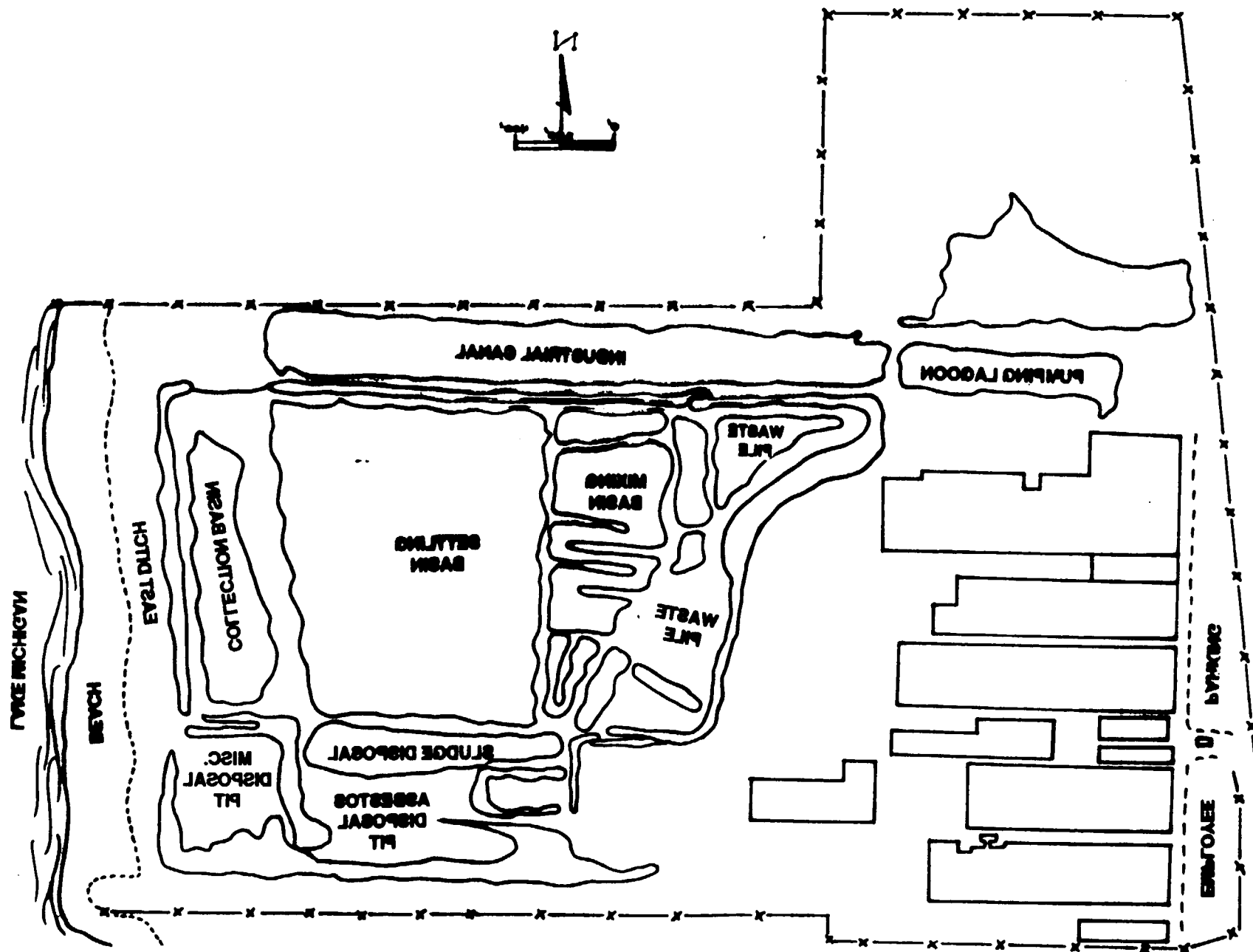


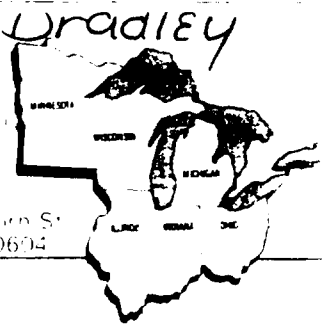
FIGURE 3
RECOMMENDED ALTERNATIVE
Cross Section





EPA Environmental NEWS RELEASE

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230 S. Dearborn St.
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Technical Contact: Brad Bradley
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Media Contact: Margaret McCue
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For Immediate Release: January 26, 1987

No. 87-12 (Correction)

U.S. EPA TO HOLD PUBLIC MEETING ON JOHNS-MANVILLE CLEANUP

The time and location of U.S. Environmental Protection Agency's public meeting on the Johns-Manville Superfund site was omitted from the press release issued January 23, 1987.

The meeting will begin at 7 p.m., February 9, 1987, at the Waukegan City Council Chambers, 106 N. Utica St., Waukegan, IL.

At the meeting, U.S. EPA staff will describe cleanup options being considered for the site, and accept comments from the public.

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